Benchmarking of Irrigation Projects

Benchmarking is a continuous process of measuring one's own performance and practices against the best competitors, and a sequential exercise of learning from other's experience. It is a fundamental management skill that supports quality and excellence. Benchmarking has broad applications in problem solving, planning, goal setting, process improvement, innovation, strategy setting and in various other contexts. Opportunities for improvement are identified by conducting an internal assessment and making comparative measurements with best practice organizations to determine the performance gaps between current practice and best practice. Selected best practices can then be suitably adopted to fit into organization's need and implemented. The cycle of improvement continues.

In irrigation sector that would mean more productive and efficient use of water , more crop per drop. The benchmarking of irrigation projects is widely accepted world over now. To promote benchmarking in irrigation sector in India, a national level Workshop was held at Hyderabad. The conclusion of the Workshop was that Benchmarking is relevant for India and it should be started as per capita water availability in coming years will dwindle and hence efficient use of water would be must. Benchmarking would help in appropriate interventions and help in formulation and implementation of policies for improvement of projects. This would result in bringing transparency in irrigation sector along with many benefits such as equitable distribution, improvement in irrigation efficiency, help bringing additional area under irrigation lead to diversification of crops, enable putting cap on O&M expenditure, in creased per unit of water etc. 20 main indicators have been identified in the Workshop to assist Benchmarking process which is given in the table below.

Table - 4..21

Main Performance Indicators for Benchmarking of Irrigation Project

Sl. No.	Domain		Performance indicator
I.	System Performance	1.	Water delivery capacity Index
		2.	Total annual volume of irrigation water supplied/delivered (m^3/year)
		3.	Field application efficiency
		4.	Annual Relative Irrigation Supply Index
		5.	Annual Irrigation water supply per unit command area (Cum/ha)
		6.	Annual Irrigation Water Supply per unit irrigated area (cum/ha)
II.	Agricultural Productivity	7.	Output per unit command area (Rs/ha)
		8.	Output per unit irrigated area – Tons / ha cropwise. (Rs./ha.)
		9.	Output per unit irrigation supply (Rs/cum)
		10.	Output per unit crop water demand (Rs/cum)
III.	Financial Aspects	11.	Cost recovery ratio
		12.	Total O&M cost per unit area (Rs/ha)
		13.	Total cost per person employed on O&M Works (Rs/person)
		14.	Revenue collection performance
		15.	Revenue collection performance
		16.	Maintenance cost to revenue ratio
		17.	Staff numbers for O&M per unit area (persons/ha)
		18.	Total O&M cost per unit of water supplied (Rs./cum)
IV.	Environmental Aspects	19 (a).	Average depth to water table (m)
		19 (b).	Land Damage Index
		20 (a).	Water Quality : Ph/Salinity/Alkalinity Index
		20 (b).	Salt balance (tones)

During 2006-07, it was decided to use benchmarking in the state for improving the performance of irrigation projects. The work was taken up in phased manner in selected major & medium irrigation projects and programmed to be extended to all major, medium and minor irrigation projects at later stage. In the first phase, 12 medium irrigation projects namely Daha, Ghodahado, Salia,Aunli, Dadaraghati, Derjang, Sunei, Remal, Ramiala Gohira, Salki & Pilasalki were selected. Data's required to evaluate the performance of the projects are being collected from field units. Data's have been received from field units and evaluated. The first report on Benchmarking of Irrigation Projects has been published and circulated among field authorities for study and to furnish views for further improvement of the performance indicators of respective projects.

Volumetric Measurement and Pricing of Irrigation Water

Water rates for irrigation use in the state are levied on the basis of area irrigated and the types of the crops grown separately for khariff and rabi crops. Khariff crops is levied with a compulsory basic water rate on basis of class of irrigation (the total depth of water) that the project is designed to supply which is to be paid irrespective of its use. But the Rabi rate is not compulsory and payable on use. Obviously, this system leads to excess use of water and wastage.

Therefore, a few states in the country initiated action for switching over to volumetric supply and pricing of irrigation water system, in which, the water tax is collected at a rate of unit volume of water supplied. The farmer has to pay depending upon his decision regarding the water usages, and the rate and the total revenue vary from farmer to farmer, land to land, and also crop to crop, even in the same ayacut thereby creating a scope for financial incentive for his efficiency in water use. Most of the advanced countries advocate for this type of revenue structure. The reason for introduction of volumetric measurement and pricing of irrigation water is to use water resources judiciously.

Presently, it is proposed to introduce Volumetric Supply and Pricing of Irrigation Water (VSPIW) in one medium (Derjang Irrigation Project) and one Minor Irrigation Project (Darpanarayanpur MIP) of the State as Pilot basis. Prior to actual demonstration of VMP to farmers as well as the field engineers, instruction have been issued to the respective Chief Engineers of the projects, i.e., CE& BM, BRB and CE, MI to rectify the system deficiencies of the selected projects and to conduct hands on training to field Engineer & Farmers by WALMI.